

The inventor hereby states his intent to rely on the doctrine of equivalents to determine and assess the reasonably fair scope of his invention as pertains to any apparatus not materially departing from but outside the literal scope of the invention as set out in the following claims.

What is claimed is:

1. A discharge outlet for a double walled containment tank having an inner tank having a chamber for receiving liquid therein and a port for the passage of liquid therethrough, and an outer containment vessel having an access opening 10 aligned with the port, the inner tank and the outer containment vessel defining a containment area therebetween, said discharge outlet comprising:

a conduit fluidically coupled to the inner tank;

a flexible, annular sealing member positioned between the 15 inner tank and the outer containment vessel in substantial alignment with the port and the access opening in surrounding relationship to said conduit;

a first coupler for connecting said sealing member to the 20 inner tank around the port; and

a second coupler for connecting said sealing member to the outer containment vessel around the access opening and thereby fluidically isolating the containment area 25 from the access opening.

2. A discharge outlet as set forth in claim 1, wherein said sealing member includes a circumferentially extending cup-shaped protrusion.

3. A discharge outlet as set forth in claim 2, wherein said sealing member is a flexible synthetic resin material.

4. A discharge outlet as set forth in claim 3, wherein said sealing member includes a substantially flat inner wall extending radially inwardly from said protrusion and having a central hole therein for permitting the passage of liquid therethrough.

5. A discharge outlet as set forth in claim 4, wherein said first coupler includes an inner flange positioned in the chamber and an outer flange positioned in the containment area for receiving a wall of the inner tank therebetween, each of said inner flange and intermediate flange having a central opening for the passage of liquid therethrough.

6. A discharge outlet as set forth in claim 5, wherein said conduit includes a discharge tube fluidically connected to said intermediate flange and having a length sufficient to extend exteriorly of the outer vessel.

7. A discharge outlet as set forth in claim 6, wherein said conduit includes an inner tube fluidically connected to said inner flange.

8. A discharge outlet as set forth in claim 3, wherein said sealing member includes a substantially flat outer wall extending radially inwardly from said protrusion and having an inner margin.

9. A discharge outlet as set forth in claim 8, wherein said inner margin is spaced outwardly from said conduit.

10. A discharge outlet as set forth in claim 3, wherein said second coupler includes an inner flange plate positioned in said channel.

11. A discharge outlet as set forth in claim 10, wherein said inner flange is provided as two semi-annular flange plate halves.

12. A discharge outlet as set forth in claim 11, wherein said second coupler includes an outer flange plate and positioned relatively exteriorly of said flat outer wall.

13. A double walled containment tank assembly comprising:

an inner tank having a chamber for receiving liquid therein and a port for the passage of liquid therethrough;

an outer containment vessel having an access opening aligned with the port, the inner tank and the outer containment vessel defining a containment area therebetween; and

a discharge outlet, said discharge outlet including:

a conduit fluidically coupled to said inner tank;

a flexible, annular sealing member positioned between said inner tank and said outer containment vessel in substantial alignment with said port and said access opening in surrounding relationship to said conduit; a first coupler for connecting said sealing member to said inner tank around said port; and a second coupler for connecting said sealing member to said outer containment vessel around said access opening and thereby fluidically isolating said containment area from said access opening.

14. A containment tank as set forth in claim 13, wherein said sealing member includes a circumferentially extending cup-shaped protrusion.

15. A containment tank as set forth in claim 14, wherein said sealing member is a flexible synthetic resin material.

16. A containment tank as set forth in claim 15, wherein said sealing member includes a substantially flat inner wall extending radially inwardly from said protrusion and having a central hole therein for permitting the passage of liquid therethrough.

17. A containment tank as set forth in claim 16, wherein said first coupler includes an inner flange positioned in said chamber and an outer flange positioned in the containment

area for receiving a wall of said inner tank therebetween, each of said inner flange and intermediate flange having a central opening for the passage of liquid therethrough.

18. A containment tank as set forth in claim 17, wherein said conduit includes a discharge tube fluidically connected to said intermediate flange and having a length sufficient to extend exteriorly of said outer vessel.

19. A containment tank as set forth in claim 18, wherein said conduit includes an inner tube fluidically connected to said inner flange and extending into said chamber adjacent a bottom wall of said inner tank.

20. A containment tank as set forth in claim 15, wherein said sealing member includes a substantially flat outer wall extending radially inwardly from said protrusion and having an inner margin, said outer wall being positioned proximate said outer vessel.

21. A containment tank as set forth in claim 20, wherein said inner margin is spaced outwardly from said conduit.

22. A containment tank as set forth in claim 15, wherein said second coupler includes an inner flange plate positioned in said channel.

23. A containment tank as set forth in claim 22, wherein said inner flange is provided as two semi-annular flange plate halves.

24. A containment tank as set forth in claim 23, wherein said second coupler includes an outer flange plate and positioned relatively exteriorly of said flat outer wall and proximate said outer vessel.

25. A discharge outlet for a double walled containment tank having an inner tank provided with a chamber for receiving liquid therein and having a side wall provided with a port therein for passage of liquid therethrough, and an outer containment vessel having a wall portion provided with an access opening having a predetermined area and positioned generally across from the port in the side wall of the inner tank, the inner tank and the outer containment vessel defining a containment area therebetween, said discharge outlet comprising:

a conduit coupled to the port in the side wall of the inner tank for fluidic communication of the conduit with the inner tank,

said conduit extending through the access opening in the outer containment vessel;

a flexible annular boot member positioned in surrounding relationship to the conduit and having opposed annular end portions;

a first coupler sealingly coupling one end portion of the boot member to the outer containment vessel around the access opening therein; and

a second coupler sealingly coupling the other end portion of the boot member to the conduit in spaced relationship from the first coupler,

the area of said access opening being greater than the cross-sectional area of that part of the conduit extending through said access opening,

whereby said boot member prevents leakage of liquid from the double walled containment tank that may collect in the containment area.

26. A discharge outlet as set forth in claim 25, wherein the boot member is sufficiently flexible to permit limited relative movement between the inner tank and the outer containment vessel.

27. A discharge outlet as set forth in claim 25, wherein said first coupler is annular and spaced radially outwardly of said conduit to permit limited relative movement between the conduit and the containment vessel.

28. A discharge outlet as set forth in claim 25, wherein said other opposed annular end portion of the boot member is sealingly coupled to the conduit adjacent the port in the side wall of the inner tank.

29. A discharge outlet as set forth in claim 28, wherein said second coupler sealingly couples said other end portion to said inner tank.

30. A discharge outlet as set forth in claim 25, wherein said boot member includes a circumferentially extending cup-shaped protrusion.

31. A discharge outlet as set forth in claim 30, wherein said cup-shaped protrusion has a maximum cross-sectional area greater than the area of the access opening.

32. A discharge outlet as set forth in claim 25, wherein said boot member is of a flexible synthetic resin material.

33. A discharge outlet as set forth in claim 25, wherein said one outer end portion of the boot member has a unitary first annular wall, an annular gasket between the side wall portion of the outer containment vessel and the first annular wall of the boot member to prevent leakage of fluid

from the containment area of the tank through said access opening of the containment vessel.

34. A discharge outlet as set forth in claim 25, wherein said other outer end portion of the boot member has a unitary second annular wall, and an annular gasket surrounding the conduit and sealingly engaging the second annular wall of the boot member to prevent leakage of fluid from the containment area between the inner tank and the containment vessel.